

CLAIMS

1. A method for manufacturing a thermoplastic resin vessel, in which a cup-shaped vessel is thermally formed from a thermoplastic resin sheet by a plug, the method comprising the steps of:

pre-forming the thermoplastic resin sheet by the plug; and next clamping the pre-formed portion of the thermoplastic resin sheet to accomplish the forming.

2. The method for manufacturing the thermoplastic resin vessel according to claim 1, wherein the pre-forming step comprises the steps of: fixing a formed portion outer periphery of the thermoplastic resin sheet.

3. The method for manufacturing the thermoplastic resin vessel according to claim 1, wherein the pre-forming step comprises the steps of: drawing a portion corresponding to an orifice portion or a flange portion of the cup-shaped vessel.

4. The method for manufacturing the thermoplastic resin vessel according to claim 2, wherein the pre-forming step comprises the steps of: drawing a portion corresponding to an orifice portion or a flange portion of the cup-shaped vessel.

5. The method for manufacturing the thermoplastic resin vessel according to claim 3, wherein

the clamping step comprises the steps of: extruding a part of a resin in the portion corresponding to the flange portion in flange inner and outer peripheral directions; and forming the flange portion.

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6. The method for manufacturing the thermoplastic resin vessel according to claim 4, wherein the clamping step comprises the steps of: extruding a part of a resin in the portion corresponding to the flange portion in flange inner and outer peripheral directions; and forming the flange portion.

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7. The method for manufacturing the thermoplastic resin vessel according to claim 3, further comprising the steps of: applying a lubricant to at least a portion of the thermoplastic resin sheet corresponding to the flange portion.

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8. The method for manufacturing the thermoplastic resin vessel according to claim 4, further comprising the steps of: applying a lubricant to at least a portion of the thermoplastic resin sheet corresponding to the flange portion.

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9. The method for manufacturing the thermoplastic resin vessel according to claim 5, further comprising the steps of: applying a lubricant to at least a portion of the thermoplastic resin sheet corresponding to the flange portion.

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10. The method for manufacturing the thermoplastic resin vessel according to claim 6, further comprising the steps of: applying a lubricant to at least a portion of the thermoplastic resin sheet corresponding to the flange portion.

11. The method for manufacturing the thermoplastic resin vessel according to claim 1 or 2, wherein the thermoplastic resin sheet is formed of at least a thermoplastic polyester resin.

12. The method for manufacturing the thermoplastic resin vessel according to claim 1 or 2, wherein the thermal forming step comprises a forming method comprising the steps of:

pneumatically forming the thermoplastic resin sheet into a shape of a lower mold heated at not less than a crystallization temperature of the thermoplastic resin sheet, and thermally fixing the sheet; and thereafter decompressing the inside of a formed article to contract the formed article, forming the article into a shape of the plug which is a final vessel shape, and cooling the article.

13. The method for manufacturing the thermoplastic resin vessel according to claim 1 or 2, further comprising the steps of: forming the sheet in such a manner that a height (H)/orifice portion inner diameter (D) of the thermoplastic resin vessel is in a range of 1.3 to 2.1.

14. The method for manufacturing the thermoplastic resin vessel according to claim 1 or 2, further comprising the steps of: forming the sheet in such a manner that an area drawing magnification of a bottom part of the thermoplastic resin vessel is in a range of 3.5 to 10 times.